

USE OF VOLUME BRAGG GRATINGS FOR THE CONDITIONING OF LASER EMISSION CHARACTERISTICS**Publication number:** JP2007527616 (T)**Publication date:** 2007-09-27**Inventor(s):****Applicant(s):****Classification:**

- **international:** H01S3/08; H01S3/131; H01S5/065; H01S5/068; H01S5/14; H01S5/40; H01S3/00; H01S5/06; H01S; H01S3/08; H01S3/131; H01S5/00; H01S3/00

- **European:** H01S3/08D2; H01S5/14B; H01S5/40H2D

Application number: JP20060518821T 20040702**Priority number(s):** US20030484857P 20030703; US20040564526P 20040422; WO2004US21491 20040702**Also published as:** WO2005013439 (A2) WO2005013439 (A3) EP2034570 (A1) EP1649564 (A2) EP1649564 (A4)[more >>](#)

Abstract not available for JP 2007527616 (T)

Abstract of corresponding document: **WO 2005013439 (A2)**

Apparatus and methods for altering one or more spectral, spatial, or temporal characteristics of a light-emitting device are disclosed. Generally, such apparatus may include a volume Bragg grating (VBG) element that receives input light generated by a light-emitting device, conditions one or more characteristics of the input light, and causes the light-emitting device to generate light having the one or more characteristics of the conditioned light.

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(19) 日本国特許庁(JP)

(12) 公表特許公報(A)

(11) 特許出願公表番号

特表2007-527616

(P2007-527616A)

(43) 公表日 平成19年9月27日(2007.9.27)

(51) Int.CI.	F I	テーマコード (参考)
HO 1 S 3/131 (2006.01)	HO 1 S 3/131	5 F 1 7 2
HO 1 S 5/068 (2006.01)	HO 1 S 5/068	5 F 1 7 3
HO 1 S 5/065 (2006.01)	HO 1 S 5/065	
HO 1 S 5/14 (2006.01)	HO 1 S 5/14	

審査請求 有 予備審査請求 未請求 (全 34 頁)

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(87) 國際公開日	平成17年2月10日 (2005.2.10)	(72) 発明者	ボロディン、ボリス、レオニドビッチ アメリカ合衆国、08550 ニュージャージー州、ウェスト ウィンザー、ウィンザー ポント ロード 93
(31) 優先権主張番号	60/484,857		
(32) 優先日	平成15年7月3日 (2003.7.3)		
(33) 優先権主張国	米国(US)		
(31) 優先権主張番号	60/564,526		
(32) 優先日	平成16年4月22日 (2004.4.22)		
(33) 優先権主張国	米国(US)		

最終頁に続く

(54) 【発明の名称】レーザー発光特性調整のためのボリューム・ブレーディングの使用

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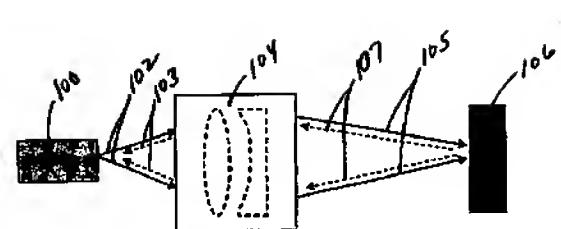


FIG. 1A

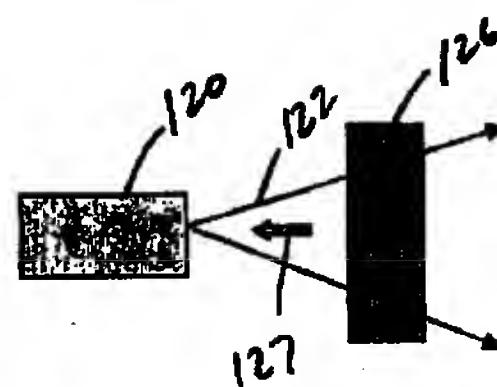


FIG. 1C

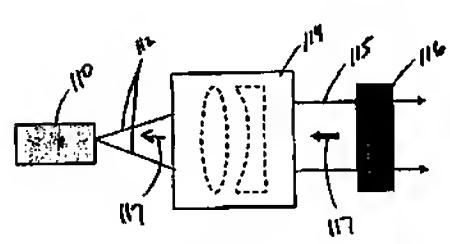


FIG. 1B

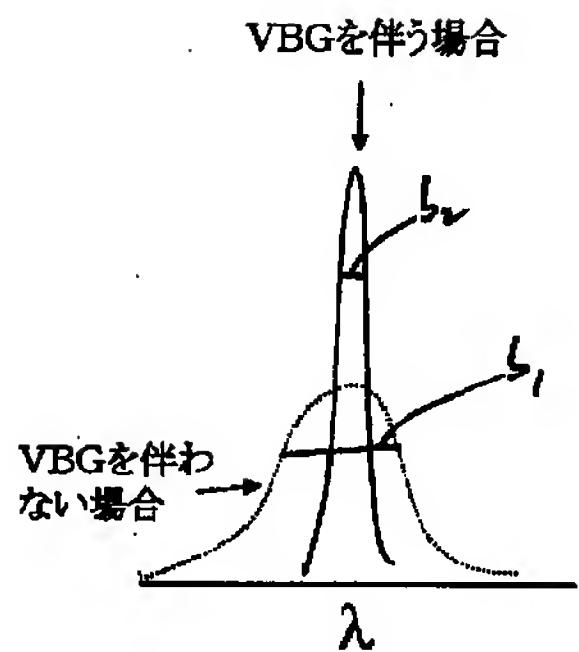


FIG. 1D

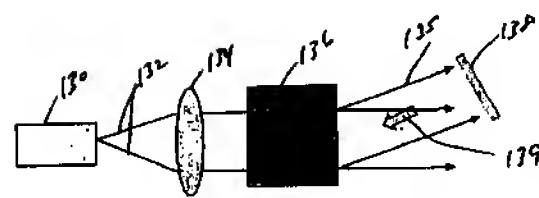


FIG. 2B

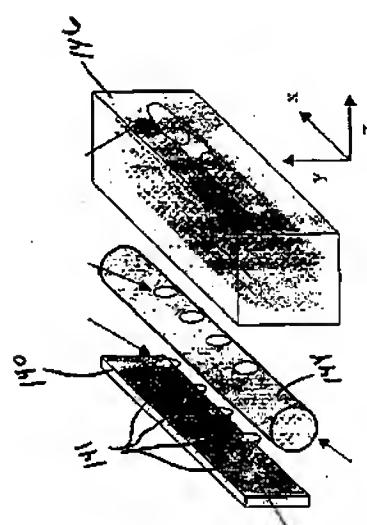


FIG. 3

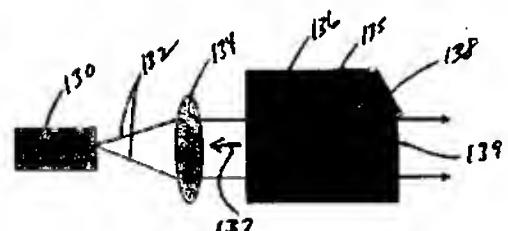


FIG. 2A

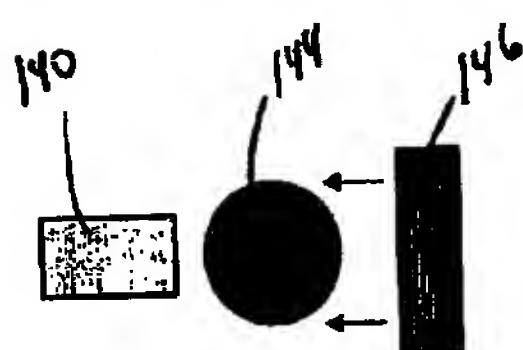


FIG. 4A

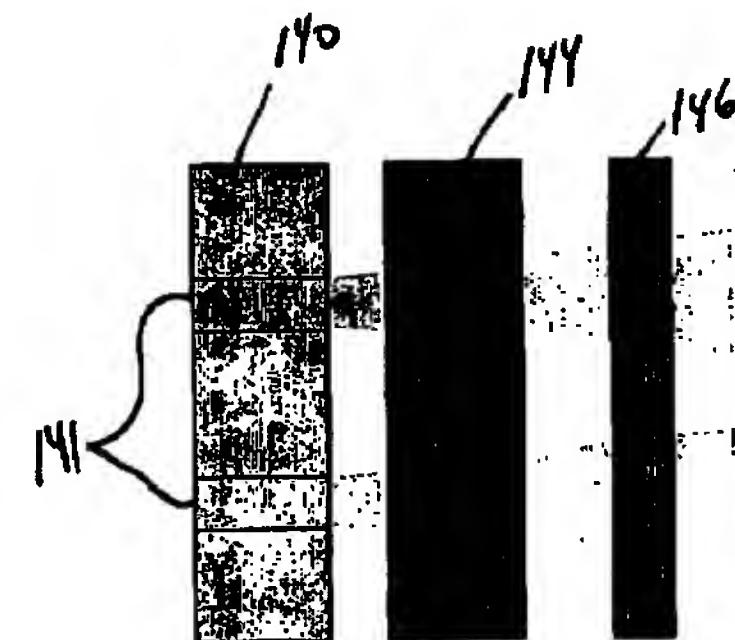


FIG. 4B

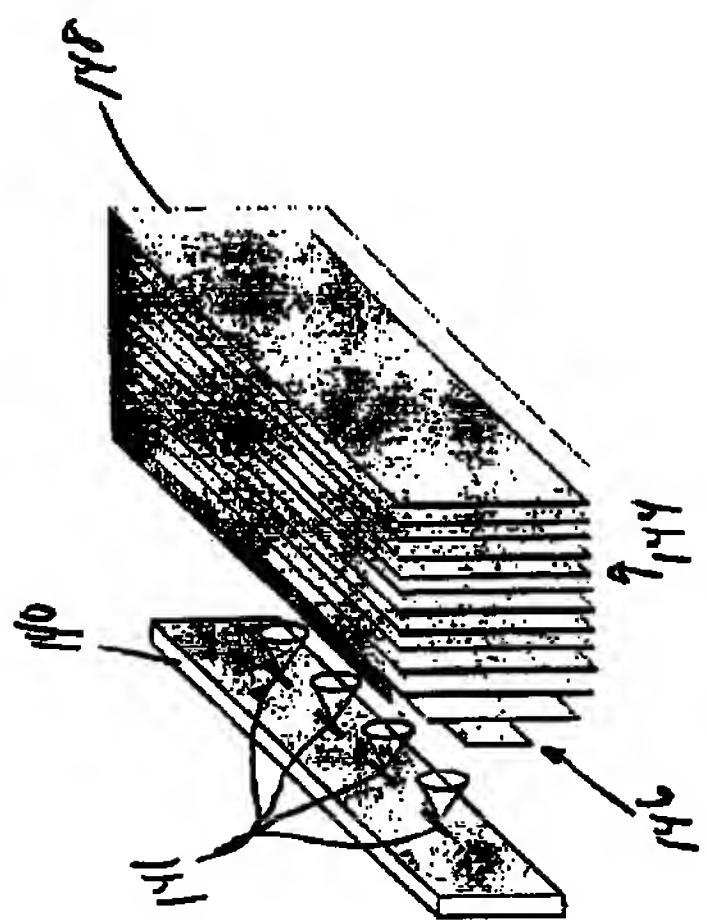


FIG. 5

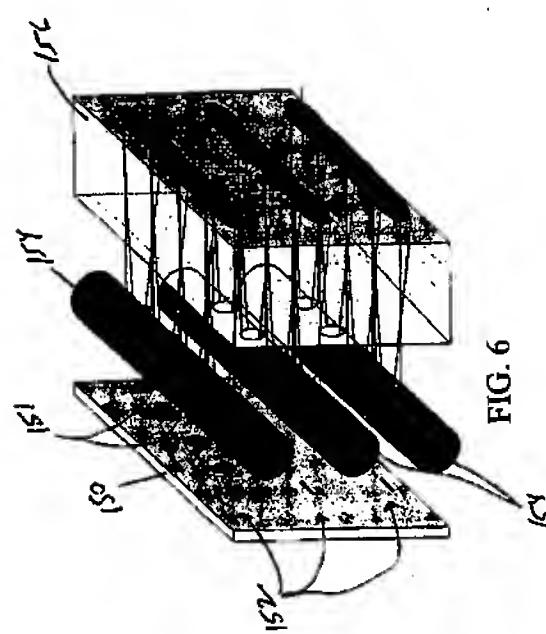


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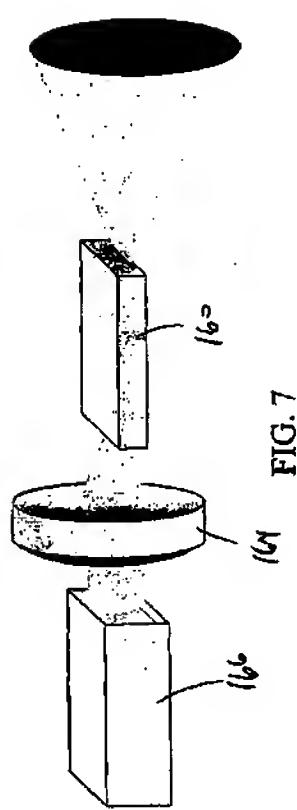


FIG. 7

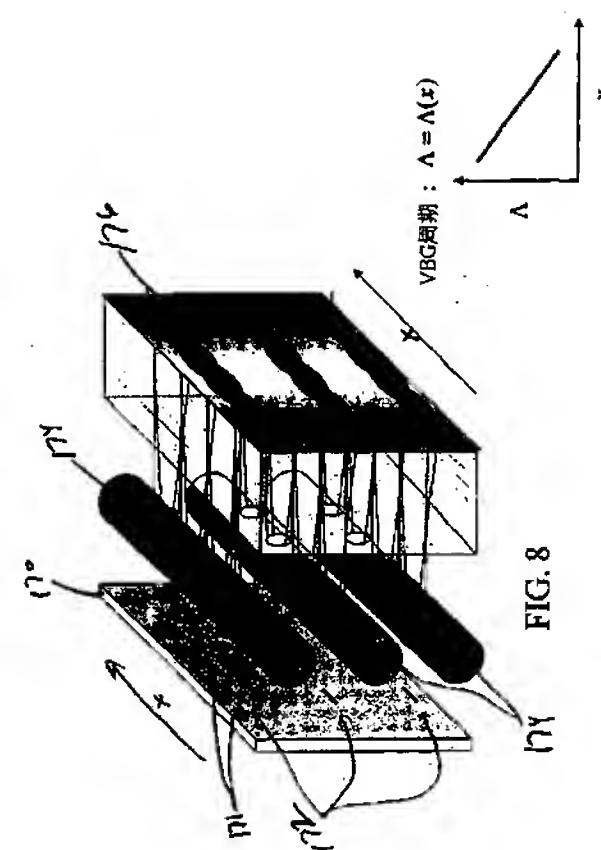


FIG. 8

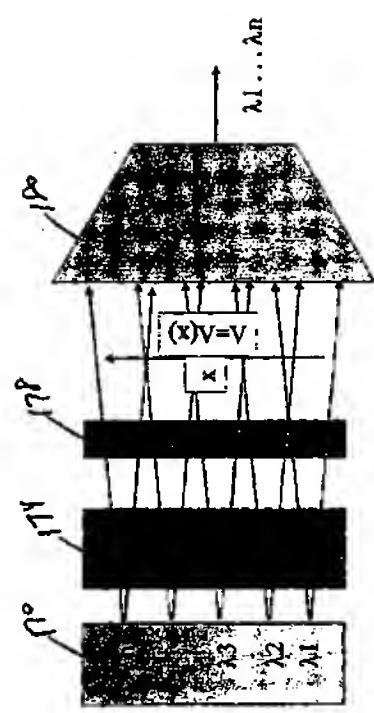


FIG. 9

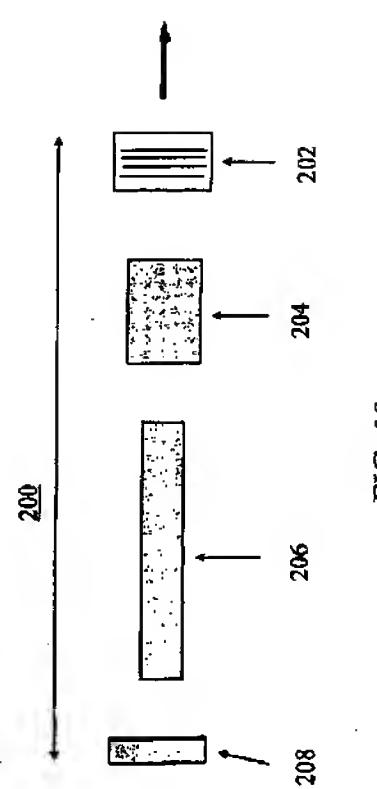


FIG. 10

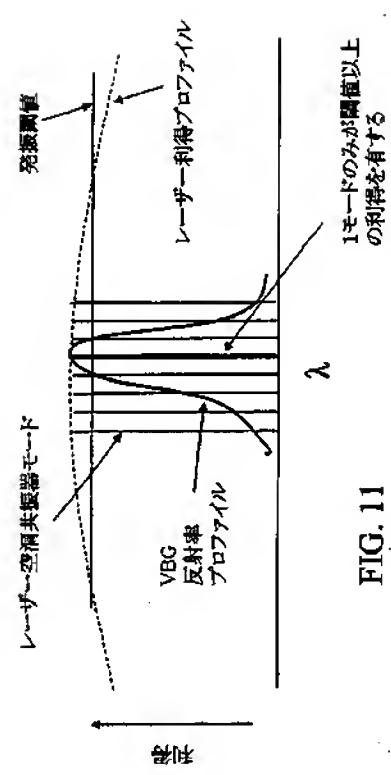


FIG. 11

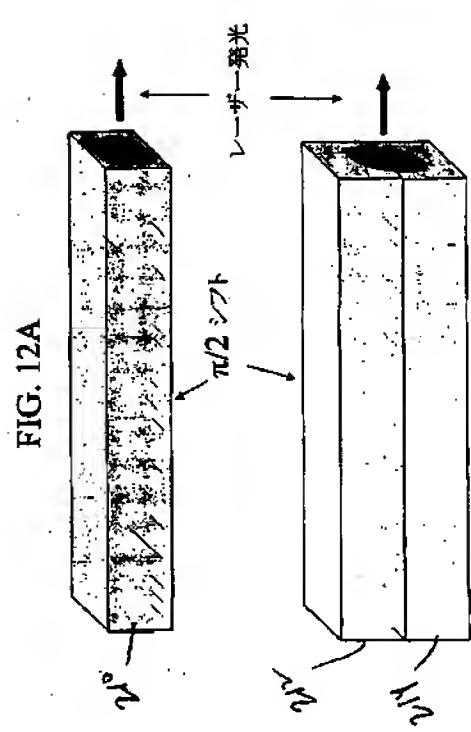
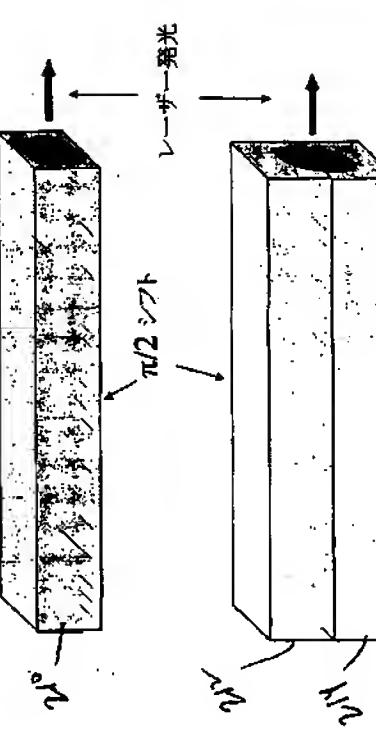


FIG. 12A

(FIG. 12B)



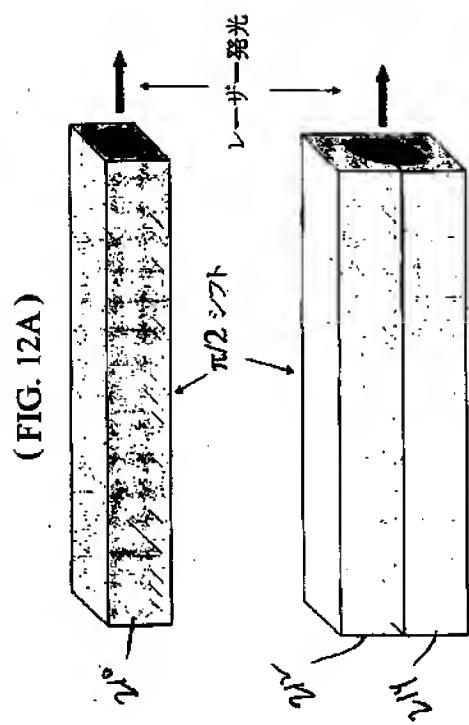


FIG. 12B

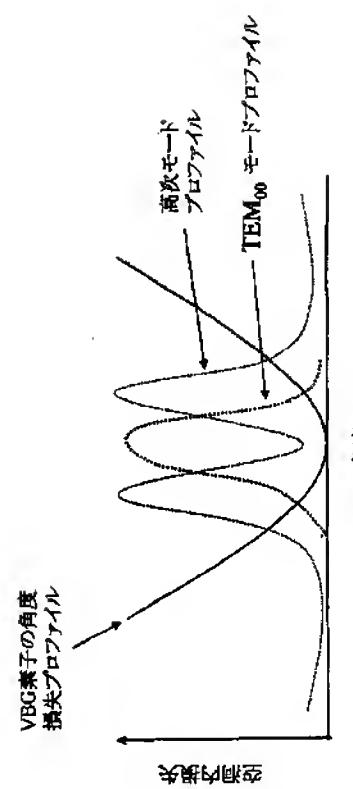


FIG. 13

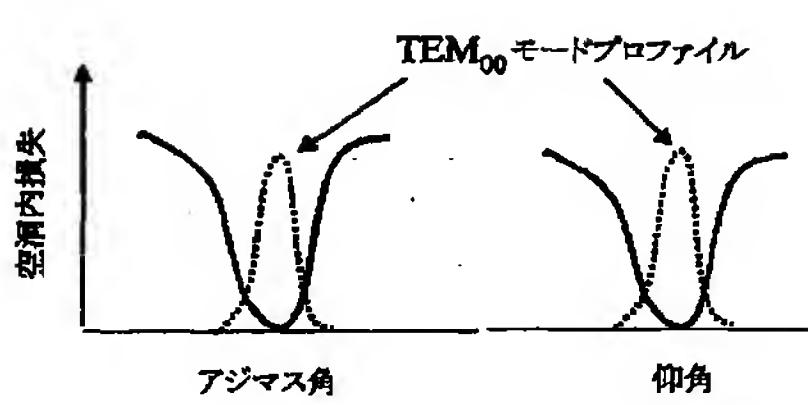


FIG. 14A

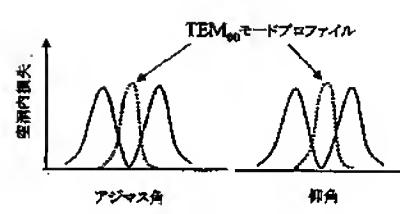


FIG. 14C

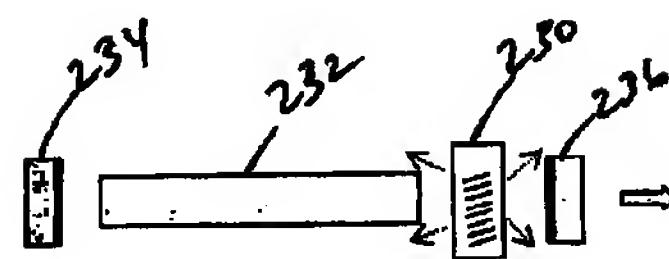


FIG. 14D

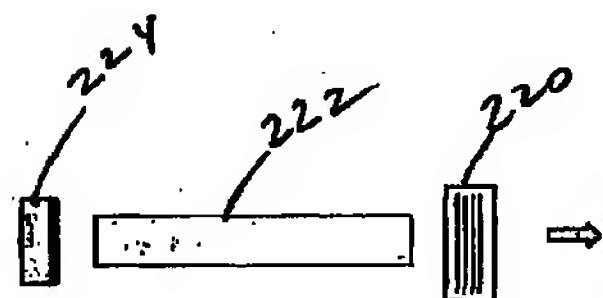
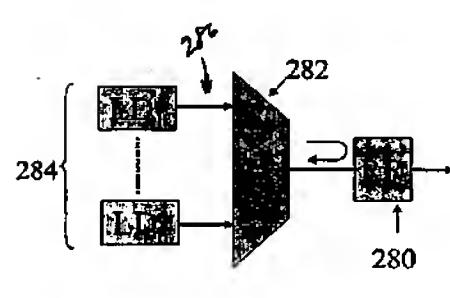
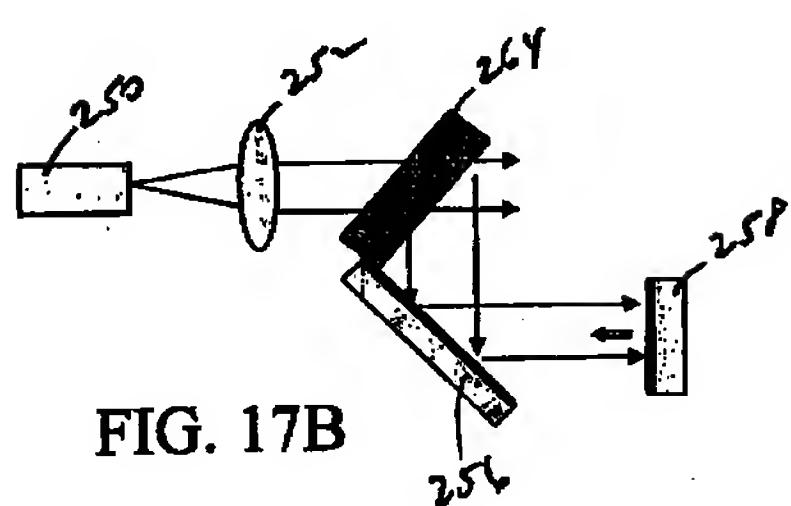
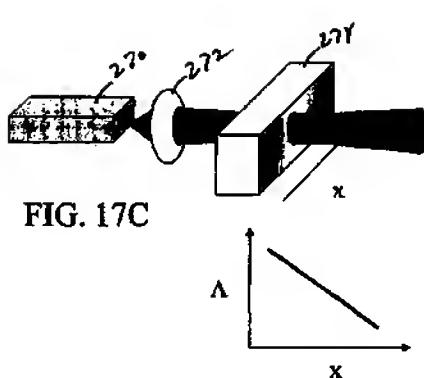
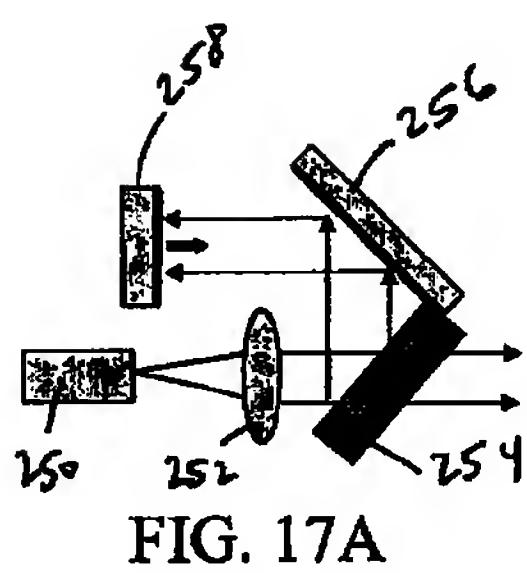
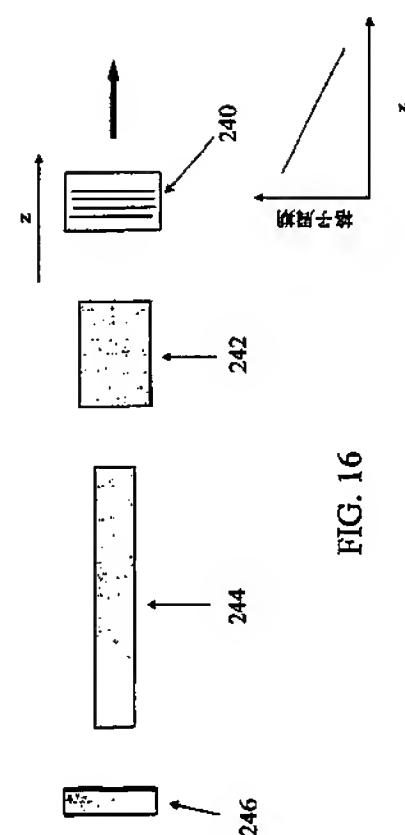
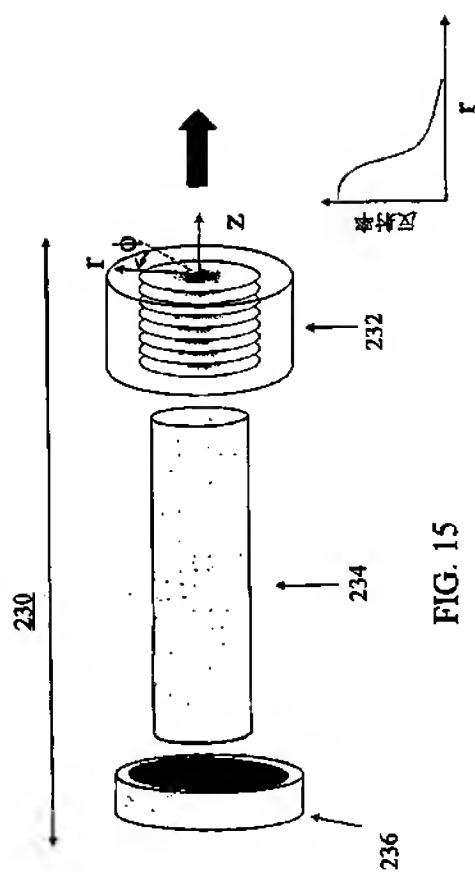


FIG. 14B



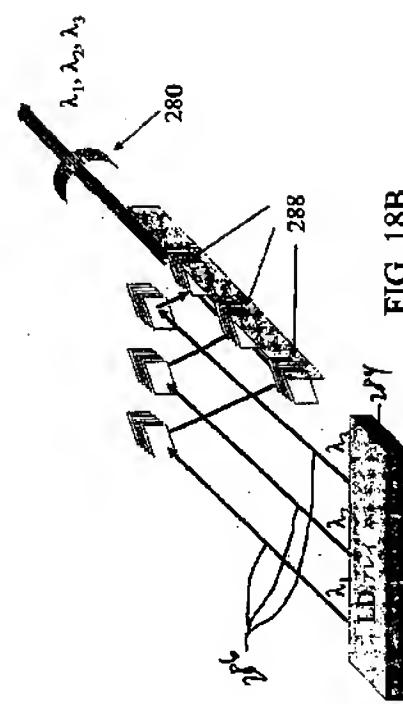


FIG. 18B

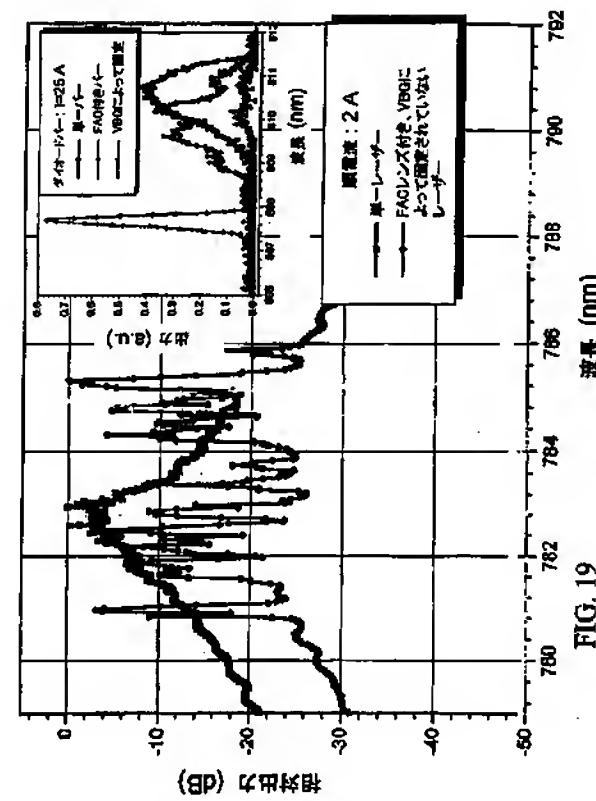


FIG. 19

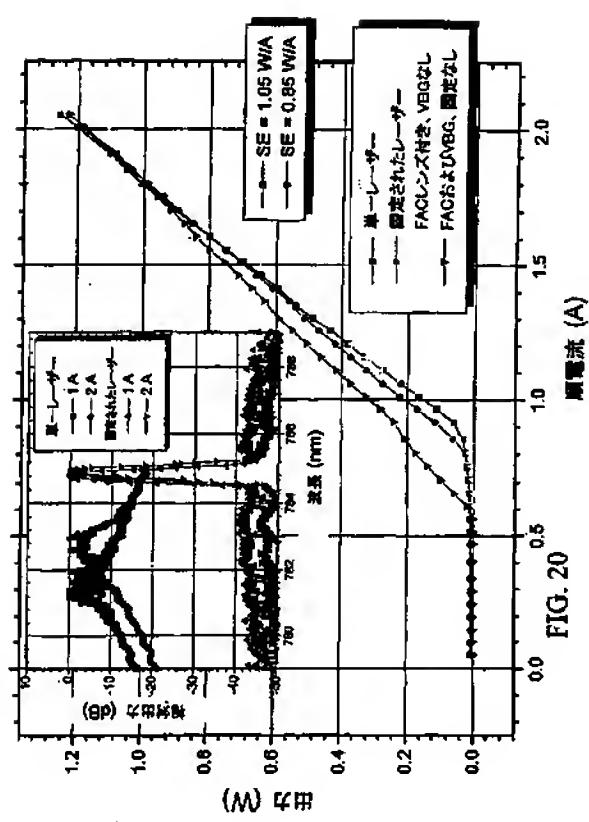


FIG. 20

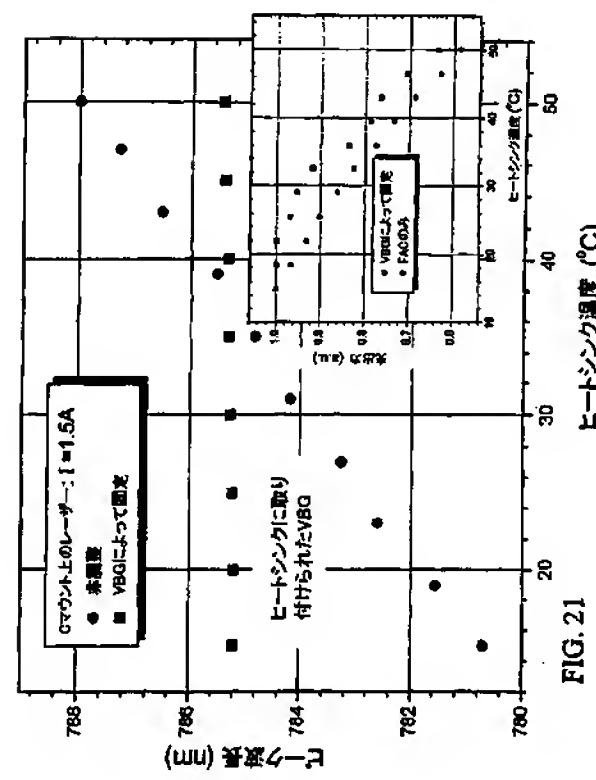


FIG. 21

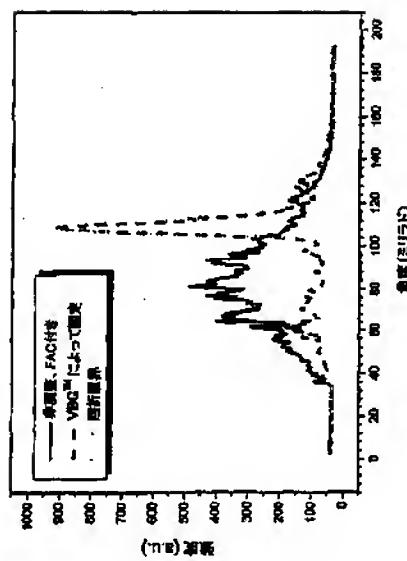


FIG. 22

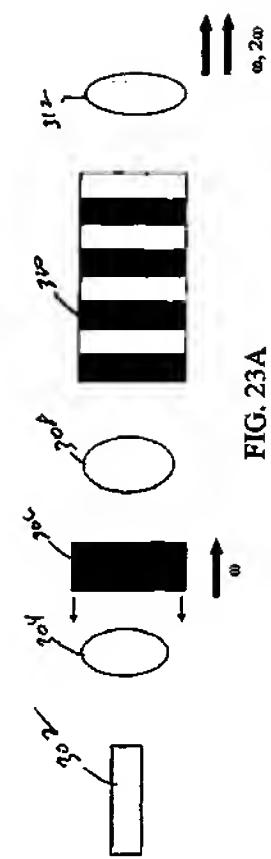


FIG. 23A

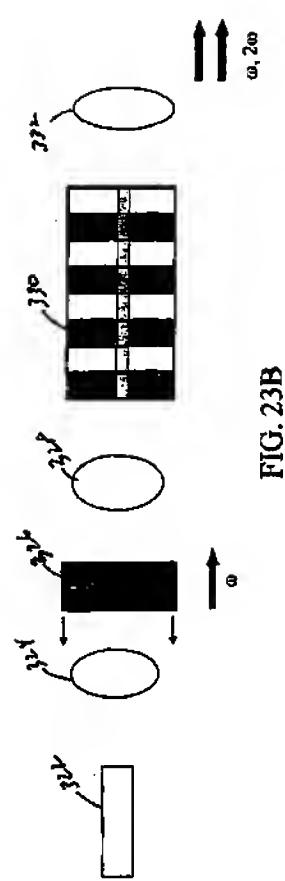


FIG. 23B



FIG. 24A

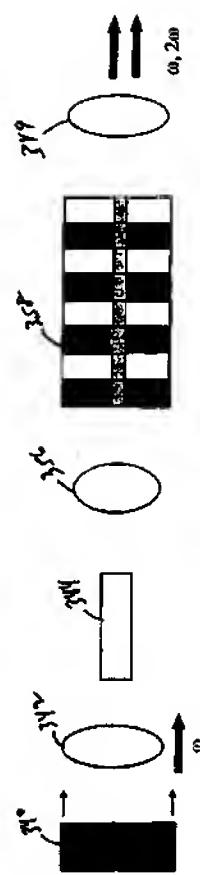


FIG. 24B

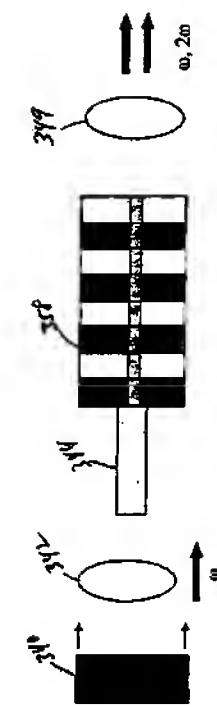


FIG. 24C

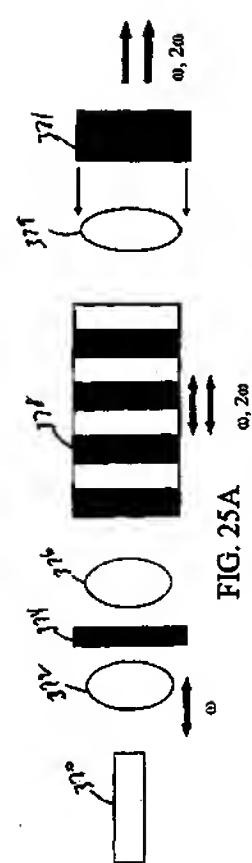


FIG. 25A

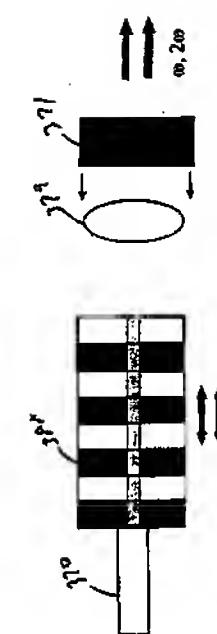


FIG. 25B

INTERNATIONAL SEARCH REPORT		International application No. PCT/US04/21491
A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : H01S 3/08 US CL : 372/102 According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 372/102,19,9,22,32		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched NONE		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) NONE		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,414,973 B1 (HWU et al.) 02 July 2002 (02.07.2002), see entire document.	1-19,21-26,31,32,34-37,46,48-51,53-55
—		-----
Y		33,38-45,47,60-64
X	US 2002/0045104 A1 (EFIMOV et al.) 18 April 2002 (18.04.2002), see entire document.	57-59
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Y		43,47,60-64
Y	US 6,385,219 B1 (SONODA) 07 May 2002 (07.05.2002), see entire document.	33
Y,P	US 2003/0214700 A1 (SIDORIN et al.) 20 November 2003 (20.11.2003), see entire document.	38-45
Y	US 6,198,759 B1 (BRODERICK et al.) 06 March 2001 (06.03.2001), see entire document.	63
Y	US 6,529,675 B1 (HAYDEN et al.) 04 March 2003 (04.03.2003), see entire document.	64
A	US 6,586,141 B1 (EFIMOV et al.) 01 July 2003 (01.07.2003), see entire document.	1-64
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/>		See patent family annex.
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed		
Date of the actual completion of the international search 12 July 2005 (12.07.2005)		Date of mailing of the international search report 19 July 2005
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230		Authorized officer JOSE DEES <i>Shawn J. Hoyer</i> Telephone No. 571-272-1569

INTERNATIONAL SEARCH REPORT

International application No. PCT/US04/21491

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2001/0016099 A1 (SHTN et al.) 23 August 2001 (23.08.2001), see entire document.	1-64

(81) AP(BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), EA(AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), EP(AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OA(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG), AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

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() 5F172 NN01 NN02 NN09 NR05
5F173 SE01 SF54 SF76